IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Gee-Gwo Mei et al.

Serial No.:   09/421,363   Group Art Unit: 2645

Filed: November 19, 1999 Examiner: Olisa Anwah

For: SYSTEM AND METHOD FOR PERSONALIZING DIALOGUE MENU FOR AN
INTERACTIVE VOICE RESPONSE SYSTEM

Honorable Commissioner of Patents
Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL

Sir:

Appellant respectfully appeals the final rejection of claims 1-10 and 12-42 in the Office

Action dated November 16, 2004. A Notice of Appeal was filed herein on February 16, 2005.

I.   REAL PARTY IN INTEREST

The real party in interest is International Business Machines Corporation, assignee of

100% interest of the above-referenced patent application.

II.   RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, Appellant's legal

representative or Assignee which would directly affect or be directly affected by or have a

bearing on the Board's decision in this appeal.

III.   STATUS OF CLAIMS

Claims 1-10 and 12-42 are all the claims presently pending in the application and are set

forth fully in the attached Appendix.

Claims 1-4, 6-8, 10-12, 15-26, 28-32 36, 37 and 42 stand rejected under 35 U.S.C. §

102(e) as being anticipated by Polcyn, et al. (U.S. Patent No. 6,061,433). Claims 13-14 stand

rejected under 35 U.S.C. § 103(a) as being unpatentable over Polcyn in view of Csaszar (U.S. Patent No. 5,970,124). Claims 5, 9 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Polcyn in view of Hanson (U.S. Patent No. 6,016,336). Claims 33-35 and 39-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Polcyn in view of Partridge (U.S. Patent No. 5,933,484).

Claim 38 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Polcyn in view of Csaszar, Partridge and Hanson. Claim 41 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Polcyn.

Appellant respectfully appeals these rejections.

IV STATEMENT OF AFTER-FINAL AMENDMENTS

Appellant notes that an Amendment which canceled claim 11 and substantially incorporated the subject matter of claim 11 into independent claims 1, 16, 26 and 28 was filed on January 28, 2005. However, in an Advisory Action dated February 24, 2005, the Examiner stated that he refused to enter the Amendment because "[t]he proposed amendments raise new issues because they were not recited previously in the pending independent claims".

Appellant respectfully submits that the Amendment filed herein on January 28, 2005 clearly does not "raise new issues" as alleged by the Examiner. Therefore, on April 15, 2005, Appellant filed a Second After-Final Amendment which was substantially the same as the January 28th Amendment, to request that the Examiner reconsider his unreasonable refusal of entering the January 28th Amendment.

Appellant notes that the pending claims are included in the Appendix attached hereto, presuming entry of the April 15, 2005 Amendment.

V. SUMMARY OF THE INVENTION

The claimed invention (e.g., as recited in **independent claim 1**), is directed to a method for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information. The claimed method includes storing a caller profile, accessing the IVR system via a telephone, and retrieving the caller profile to construct a personalized IVR dialogue menu and play out the personalized IVR dialogue menu via the

telephone. The personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by the caller. The personalized menu is constructed <u>by performing a tree-based collapsing</u> (Application at Figures 7-8; page 15, line 9-page 17, line 10). In addition, the personalized menu includes <u>a plurality of shortcut paths, and an option for changing the plurality of shortcut paths in the personalized IVR dialogue menu</u> (Application at page 14, lines 3-8).

Another aspect of the claimed invention (e.g., as recited in **independent claim 16**) is directed to a system for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information. The system includes a storage device for storing a caller profile, a telephone for accessing the IVR system, and a retrieval unit for retrieving the caller profile to construct a personalized IVR dialogue menu <u>by performing a tree-based collapsing</u>, and play-out the personalized IVR dialogue menu via the telephone. The personalized IVR dialogue menu includes <u>a plurality of shortcut paths, and an option for changing the plurality of shortcut paths in the personalized IVR dialogue menu</u>. Further, the personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by the caller.

Another aspect of the claimed invention (e.g., as recited in **independent claim 26**) is directed to a system for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information. The system includes a storage for storing a caller profile, and a retrieval unit for retrieving the caller's profile to construct a personalized IVR dialogue menu <u>by performing a tree-based collapsing</u> and play-out the personalized menu, the retrieval unit being selectively interfaced with a network and a public switch telephone network (PSTN). The personalized IVR dialogue menu includes <u>a plurality of shortcut paths; and an option for changing the plurality of shortcut paths in the personalized IVR dialogue menu</u>. The retrieval unit includes a telephone interface module for selectively interfacing with the PSTN and for selectively receiving a predetermined tone and a voice input from the caller via the PSTN, the telephone interface module selectively transmitting at least one of synthesized and stored voice messages to the caller via the PSTN. The personalized IVR dialogue menu is configurable by the caller through the PSTN via the telephone interface module. In addition, the retrieval unit further includes a network interface module for

communicating with external systems via the network to retrieve information for the IVR system to playback via the telephone interface module, the network interface module presents a configurable menu to the caller via the network for the caller to specify the caller's personalized dialogue menu, and the network interface module parses text messages into a predetermined format such that the parsed text messages are used to interact with the caller through the telephone interface module.

Another aspect of the claimed invention (e.g., as recited in **independent claim 28**) is directed to a signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information. The method includes storing a caller profile, accessing the IVR system via a telephone, and retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via the telephone. The personalized IVR dialogue menu includes a plurality of shortcut paths; and an option for changing the plurality of shortcut paths in the personalized IVR dialogue menu. The personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by the caller.

Conventional IVR systems may include a menu which is intended to save a caller's time by allowing the caller to press "1" on a telephone keypad to play out several applications based on the caller's past usage. However, such systems do not deal with hierarchical (e.g., hierarchical tree) menus, but instead deal only with "flat" menus (e.g., menus without "intermediate" nodes for accessing information). Thus, such systems do not construct a personalized menu by performing a tree-based (e.g., hierarchical tree-based) collapsing.

In addition, such systems may include path (e.g., pressing the number "1" on a telephone keypad) which can be taken by a caller to access applications (e.g., savings account balance, checking account balance, etc.) more directly than an ordinary route (e.g., by a path provided in a standard menu). However, such IVR systems do not include a plurality of shortcut paths.

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Moreover, such conventional systems may allow an option for changing **the order of presentation of the applications** reached by taking a certain path. However, this option is <u>not related to changing a plurality of shortcut paths</u> in the menu of such conventional systems. Indeed, merely changing the order of presentation of applications does not change the "path" that the caller takes to get to those applications. That is, the caller will always take the same path (e.g., pressing the number "1" on a telephone keypad) to get to those applications. Stated another way, the caller may change the order of the applications played out to caller when the caller takes the shortcut path, but the path will always be the same (e.g., pressing the number "1" on a telephone keypad). Thus, such conventional methods/systems, therefore, lack convenience and sophistication (Application at page 11, lines 4-16).

The claimed invention, on the other hand, constructs a personalized menu by performing a tree-based collapsing (Application at Figures 7-8; page 15, line 9-page 17, line 10). That is, in the claimed invention, a hierarchical menu may be collapsed (e.g., by removing intermediate nodes) to construct the personalized menu.

In addition, the <u>personalized menu includes</u> a plurality of shortcut paths, and <u>an option for changing the plurality of shortcut paths in the personalized menu</u> (Application at Figures 4 and 5; page 11, lines 17-21).

For example, in the claimed invention, the menu played out to the caller may state "Press 1 to transfer fund balance by dollar amount, press 2 for account balance by fund" and so on. In this case, for example, the caller may take a first shortcut path (e.g., pressing the number "1" on a telephone keypad) to transfer fund balance, take a second shortcut path (e.g., pressing the number "2" on a telephone keypad) to access an account balance, and so on. These "paths" for accessing the information may be <u>more direct</u> that the paths provided ordinarily (e.g., provided in a default main menu). That is, unlike conventional systems, the claimed invention provides a menu which includes <u>a plurality of shortcut paths</u>.

Moreover, the menu in the claimed invention includes an <u>option of changing the plurality of shortcut paths in the menu (e.g., to include different shortcut paths in the menu)</u>. Thus, for example, the menu played out to the caller my state "Press 7 to change your personalized menu".

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The caller may then press "7" on the telephone keypad to change the shortcut paths in the menu

such as by adding shortcut paths to the menu or deleting shortcut paths from the menu

(Application at page 14, lines 3-8).

These features allow the claimed invention is much more sophisticated, user friendly and

flexible than conventional systems.

VI.   GROUNDS OF REJECTION TO BE REVIEWED

The grounds of rejection to be reviewed by the Board of Patent Appeals and Interferences

include:

1)   rejection of claims 1-4, 6-8, 10, 12, 15-26, 28-32 36, 37 and 42 under 35 U.S.C.

§ 102(e) over Polcyn, et al. (U.S. Patent No. 6,061,433);

2)   rejection of claims 13-14 under 35 U.S.C. § 103(a) over Polcyn in view of

Csaszar (U.S. Patent No. 5,970,124);

3)   rejection of claims 5, 9 and 27 under 35 U.S.C. § 103(a) over Polcyn in view of

Hanson (U.S. Patent No. 6,016,336);

4)   rejection of claims 33-35 and 39-40 under 35 U.S.C. § 103(a) over Polcyn in view

of Partridge (U.S. Patent No. 5,933,484);

5)   rejection of claim 38 under 35 U.S.C. § 103(a) over Polcyn in view of Csaszar,

Partridge and Hanson; and

6)   rejection of claim 41 under 35 U.S.C. § 103(a) over Polcyn.

VIII. ARGUMENT

A.   The Rejection of claims 1-4, 6-8, 10, 12, 15-26, 28-32 36, 37 and 42 under 35 U.S.C. § 102(e) over Polcyn, et al. (U.S. Patent No. 6,061,433)

As set forth on pages 2-11 of the Office Action dated November 16, 2004, the Examiner

rejected claims claims 1-4, 6-8, 10, 12, 15-26, 28-32 36, 37 and 42 under 35 U.S.C. § 102(e)

over Polcyn, et al. (U.S. Patent No. 6,061,433), stating:

Regarding claim 1, Polcyn discloses a method for personalizing an

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interactive voice response (IVR system to reduce a number of key sequences to

reach a desired source of information (col. 2, lines 30-35), comprising:

    storing a caller profile (col. 2, lines 40-50);

    accessing said IVR system via a telephone (305 from Figure 3); and

    retrieving the caller profile to construct a personalized IVR dialogue menu

and play out the personalized IVR dialogue menu via said telephone (see Figure

3), said personalized IVR dialogue menu comprising:

    a plurality of shortcut paths (321-325 from Figure 3); and

    an option for changing said plurality of shortcut paths in said

personalized IVR dialogue menu (345 from Figure 3),

    wherein said personalized IVR dialogue menu is at least one of based on a

caller access pattern and configurable by said caller (345 and 321 from Figure

3)."

The Examiner stated that claims 16, 26 and 28 are rejected for the same reasons as claim

1.

The Examiner rejected the dependent claims by merely citing to portions of the Polcyn

reference, as follows: claim 2 (col. 2, line 66 to col. 3, line 10), claim 3 (col. 6, lines 59-64 and

Figure 4), claim 4 (col. 2, line 66 to col. 3, line 10), claim 6 (col. 4, lines 34-44), claim 7 (col. 6,

lines 59-64), claim 8 (col. 6, lines 59-64), claim 10 (col. 4, lines 15-25), claim 12 (col. 4, lines

34-44), claim 15 (Figure 3), claim 17 (Figure 3), claim 18 (Figure 1), claim 19 (col. 3 and Figure

3), claim 20 (col. 6), claim 21 (col. 2, lines 50-56), claim 22 (col. 4, lines 34-44), claim 23

(Figure 3), claim 24 (col. 6, lines 59-64), claim 25 (Figures 2 and 3), claim 29 (345 from Figure

3), claim 30 (col. 4, lines 34-44), claim 31 (col. 4, lines 34-44), claim 32 (col. 4, lines 34-44),

claim 36 (Figure 3), claim 37 (col. 6, lines 55-65), claim 42 (Figure 3).

1.   Independent claim 1

Independent claim 1 recites:

"A method for personalizing an interactive voice response (IVR) system to reduce a

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number of key sequences to reach a desired source of information, comprising:

storing a caller profile;

accessing said IVR system via a telephone; and

retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and

an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller"

Appellant respectfully submits that <u>the Examiner's position is flawed as a matter of fact and as a matter of law</u>.

Specifically, Appellant submits that there are elements of the claimed invention that are neither taught or suggested by Polcyn.

However, Polcyn does not teach or suggest *"retrieving the caller profile to construct a personalized IVR dialogue menu <u>by performing a tree-based collapsing,</u> and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1.

As noted above, these features allow the claimed invention is much more sophisticated, user friendly and flexible than conventional methods/systems (Application at Figures 4 and 6; page 11, lines 17-21).

Clearly, these novel features are not taught or suggested by Polcyn. The Examiner alleges that this feature (formerly recited in claim 11) is disclosed in Polcyn at column 6. However, **nowhere does col. 6 in Polcyn teach or suggest a hierarchical tree menu, let alone constructing a personalized menu by "performing a tree-based collapsing".**

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Indeed, attached hereto as Appellant's Exhibit 1 and incorporated herein by reference, is a flowchart which more clearly describes the system disclosed by Polcyn. Appellant notes that this flowchart was included with the Amendment filed herein on January 28, 2005.

As illustrated in Exhibit 1, in Polcyn, a caller may be presented with an introductory menu which states "Press 1 to connect with your usual services, Press 2 for other selections" (Polcyn at col. 6, lines 59-61). Thus, by pressing "1" the caller will be directed to certain applications in an order which is based on caller's past usage. If the caller historically has accessed his checking account balance, then afterwards, accessed his savings account balance, if the caller presses "1" in the introductory menu, a second menu will be played out which may state "Your checking account balance is $X, and your savings account balance is $Y" (Polcyn at col. 6, lines 29-31).

Referring to Figure 3, Polcyn states that this second menu may also include "the option, step 345, of changing the **order of presentations**" (emphasis added) (Application at col. 6, lines 37-38). It is important to note that by "order of presentations", Polcyn means only the order of applications presented to the caller in the second menu (e.g., see col. 6, lines 24-29 which describes the "order" of presentation).

Thus, by selecting this option (e.g., step 345 in Figure 3) and changing the order, the next time the caller connects to the menu (e.g., by calling again), if the caller presses "1" in the introductory menu, the caller may hear the applications presented in a different order. For example, the caller may hear "Your savings account balance is $Y, and your checking account balance is $X".

Polcyn also teaches that the applications presented to the caller by pressing "1" in the introductory menu can be changed. Specifically, if the caller presses "2" in the introductory menu, a third menu (e.g., **the standard menu**) may be played out to the caller which includes "a long sequence of standard introductory messages as in FIG. 2" (Polcyn at col. 6, lines 61-64). This is intended by Polcyn to provide the ability "to determine a change in preferred applications by individual callers" (Polcyn at col. 6, lines 66-67).

[Appellant would point out that this passage makes clear that Polcyn does not provide a

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mechanism for allowing a caller to affirmatively change his preferences (e.g., by configuring the personalized menu as in the claimed invention), but instead only provides a mechanism to "determine a change" in the caller's preferences based on past usage].

Polcyn states that if a caller "continually presses 2" in response to the introductory menu and then selects the "mortgage rate" application, the caller's preferences (e.g., savings account balance) will eventually be replaced with the "mortgage rate" application (Polcyn at col. 7, lines 1-5). Similarly, if a caller "consistently" presses 1 in the second menu, and selects an additional application (e.g., a "CD rate" application), this additional application will eventually be added to the caller's preferences (Polcyn at col. 7, lines 6-16).

Thus, it is clear that changing the caller's preferences (e.g., the applications played out to the caller in the second menu) is **extremely cumbersome** in the Polcyn system. For example, to replace a "savings account" application with a "mortgage rate" application, the caller must **continually** press 2 in response to the introductory menu. Thus, the caller may have to **continually** call back, over and over again, maybe seven or eight times in a row, in order to replace the "savings account" application with the "mortgage rate" application.

It is important to note, however, that merely changing these preferences does not change a "shortcut path" in the menu. Indeed, even after the caller changes his preferences as noted above, the "path" taken to get to the "mortgage rate" application is the same as the "path" taken to get to the "savings account" application (i.e., by pressing "1" in the introductory menu)].

In addition, Appellant respectfully submits that it is clearly evident that adding applications to the caller's preferences is **extremely cumbersome** in the Polcyn system. For example, to add a "CD rate" application to the caller's preferences, the caller must "**consistently** press 1 in response to the second menu (emphasis added) (Polcyn at col. 7, lines 6-16). Thus, the caller may have to **consistently** press 1, over and over again, maybe seven or eight times in a row, in order to add the "CD rate" application to his preferences.

[It is important to note, however, that merely adding preferences does not change a "shortcut path" in the menu. Indeed, even after the caller adds the preferences as noted above, the "path" taken to get to the additional "preferred" application is the same as the "path" taken to

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get to the other "preferred" applications (i.e., by pressing "1" in the introductory menu)].

Clearly, the cumbersome Polcyn system is completely unrelated to the claimed invention. Indeed, as noted above, **the standard menu in the Polcyn system is "flat"**. That is, the applications are accessed <u>directly from the standard menu</u> without any intermediate steps (e.g., see applications 240, 245, 250 and 255 in Figure 2 of Polcyn). For example, if a caller pressed 1 in response to the standard menu in Polcyn, <u>the caller would not be directed to another menu (e.g., an intermediate node) but would directly access the application</u>. Thus, by constructing the second menu in which the caller's preferred applications (e.g., savings account balance, checking account balance, etc.) based on past usage are played out, <u>Polcyn is not "performing a tree-based collapsing"</u>.

The claimed invention, on the other hand, constructs a personalized menu <u>by performing a tree-based collapsing</u> (Application at Figures 7-8; page 15, line 9-page 17, line 10). That is, in the claimed invention, a hierarchical menu may be collapsed (e.g., by removing intermediate nodes) to construct the personalized menu.

Indeed, **as Appellant's undersigned representative pointed out to the Examiner and Examiner Smith in the personal interview conducted on January 25, 2005,** in an exemplary embodiment (e.g., see Figures 7 and 8), the personalized menu may be constructed by performing a "tree-based collapsing" such that the menu includes <u>a shortcut path to a node (e.g., any node, not merely a terminal node or application) which is more direct than an ordinary path (e.g., the path provided in a default menu)</u>. Thus, for example, as illustrated in Figures 7 and 8, whereas a standard menu may include a path a-b-c-d-e, the personalized menu may be constructed include a path a-c-e (Application at Figure 8; page 16, lines 3-6).

Polcyn, on the other hand, does not deal with hierarchical (e.g., hierarchical tree) menus, but instead <u>deals only with "flat" menus</u> (e.g., menus without "intermediate" nodes for accessing information). For example, as shown in attached Exhibit 1, the Standard Menu in Polcyn is flat. That is, **in Polcyn, if a caller presses any of the keys in response to the Standard Menu, the caller is taken directly to an application**. The caller in Polcyn does not press a key in response to the Standard menu to get to a second submenu, then press another key to get to a third

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submenu and so forth (as illustrated in Figure 7 of the present Application) until he arrives at the application.

Thus, such even assuming (arguendo) that Polcyn constructs a personalized menu, Polcyn cannot construct a personalized menu by performing a tree-based (e.g., hierarchical tree-based) collapsing. Thus, Polcyn is completely unrelated to the claimed invention.

Further, unlike the cumbersome Polcyn system, the claimed invention provides a personalized menu which includes a plurality of shortcut paths.

Appellant notes that the term "shortcut" is defined as "a route more direct than the one ordinarily taken" (*Webster's Universal Encyclopedic Dictionary*, Barnes & Noble Books, page 1699 (2002)). Examples of "shortcut paths" are illustrated in the present Application in the "Personalized Main Menu" 402 in Figure 4 which includes "1 Transfer Fund Balance by Dollar Amount", "2 Account Balance by Fund" and so on.

For example, in the claimed invention, the menu played out to the caller may state "Press 1 to transfer fund balance by dollar amount, press 2 for account balance by fund" and so on. In this case, for example, the caller may take a first shortcut path (e.g., pressing the number "1" on a telephone keypad) to transfer fund balance, take a second shortcut path (e.g., pressing the number "2" on a telephone keypad) to access an account balance, and so on. These "paths" for accessing the information may be more direct that the paths provided ordinarily (e.g., provided in a default main menu).

Polcyn, on the other hand, teaches only one key that the caller may use to take a more direct route to an application than an ordinary route. Namely, as illustrated in the attached Exhibit 1, if the caller presses "1" in the main menu, the caller may be directed to his preferred applications without having to press another key. However, Appellant would point out that even assuming that this is a "shortcut", it is only a single shortcut, not a "plurality of shortcuts" as in the claimed invention.

Moreover, nowhere is the caller provided with the option of changing the path. That is, the path will always be the same (e.g., pressing "1") and the result will be the same (e.g., savings and checking account balances will be played out) unless the caller "continually" or

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"consistently" calls back and requests different information, in which case the caller's preferred applications will be replaced or added to.

Appellant notes that the Examiner in the personal interview on January 25, 2005 indicated that the option in the standard menu to "Press 4 for CD rate information" was a "shortcut. However, this is clearly not correct, since **this "path" is no more direct than any other "path" for getting to the CD rate information**.

Moreover, the menu in the claimed invention includes an **option of changing the plurality of shortcut paths in the menu (e.g., to include different shortcut paths in the menu)**. Thus, for example, the menu played out to the caller my state "Press 7 to change your personalized menu". The caller may then press "7" on the telephone keypad to change the shortcut paths in the menu such as by adding shortcut paths to the menu or deleting shortcut paths from the menu (Application at page 14, lines 3-8).

Polcyn, on the other hand, may provide an option for changing **the order of presentation of the applications** reached by taking a certain path. However, this option is **not related to changing a shortcut path** in the menu. Indeed, **merely changing the order of presentation of applications does not change the "path" that the caller takes to get to those applications**. That is, the caller will always take the same path (e.g., pressing the number "1" on a telephone keypad) to get to those applications. Stated another way, the caller may change the order of the applications played out to caller when the caller takes the shortcut path, but the path will always be the same (e.g., pressing the number "1" on a telephone keypad). Thus, Polcyn clearly lacks the convenience and sophistication of the claimed invention.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 1.

Therefore, the Board is respectfully requested to withdraw this rejection.

2.   Independent Claim 16

Independent claim 16 recites:

"A system for personalizing an interactive voice response (IVR) system to reduce a

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number of key sequences to reach a desired source of information, comprising:

    a storage device for storing a caller profile;

    a telephone for accessing said IVR system; and

    a retrieval unit for retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play-out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

        a plurality of shortcut paths; and

        an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

    wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller".

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, Polcyn does not teach or suggest *"a retrieval unit for retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing"* or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 16.

Appellant notes that these features are similar to the features discussed above with respect to claim 1. Therefore, Appellant's arguments made above with respect to claim 1 are incorporated by reference herein.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 16.

Therefore, the Board is respectfully requested to withdraw this rejection.

3.   Independent claim 26

Independent claim 26 recites:

"A system for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, comprising:

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a storage for storing a caller profile; and

a retrieval unit for retrieving the caller's profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing and play-out the personalized menu, said retrieval unit being selectively interfaced with a network and a public switch telephone network (PSTN), and said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and

an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said retrieval unit includes:

a telephone interface module for selectively interfacing with said PSTN and for selectively receiving a predetermined tone and a voice input from said caller via the PSTN, said telephone interface module selectively transmitting at least one of synthesized and stored voice messages to said caller via the PSTN,

wherein said personalized IVR dialogue menu is configurable by said caller through the PSTN via said telephone interface module,

wherein said retrieval unit further includes:

a network interface module for communicating with external systems via the network to retrieve information for the IVR system to playback via said telephone interface module,

wherein said network interface module presents a configurable menu to the caller via the network for the caller to specify the caller's personalized dialogue menu, and

wherein the network interface module parses text messages into a predetermined format such that the parsed text messages are used to interact with the caller through said telephone interface module".

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, Polcyn does not teach or suggest *a retrieval unit for retrieving the caller's profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing and play-out the personalized menu"* or a personalized menu which

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includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 26.

Appellant notes that these features are similar to the features discussed above with respect to claim 1. Therefore, Appellant's arguments made above with respect to claim 1 are incorporated by reference herein.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 26.

Therefore, the Board is respectfully requested to withdraw this rejection.

4.   Independent Claim 28

Independent claim 28 recites:

"A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, said method comprising:

storing a caller profile;

accessing said IVR system via a telephone; and

retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller".

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, Polcyn does not teach or suggest *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing",*

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or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 28.

Appellant notes that these features are similar to the features discussed above with respect to claim 1. Therefore, Appellant's arguments made above with respect to claim 1 are incorporated by reference herein.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 28.

Therefore, the Board is respectfully requested to withdraw this rejection.

5.   Dependent Claim 2

Claim 2 depends from claim 1 and further recites *"tracking an access pattern of said caller"*. This feature is discussed in the present Application at p4, lines 6-8.

The Examiner asserts that this feature is disclosed in Polcyn at col. 2, line 66 to col. 3, line 10.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 2. Therefore, the Board is respectfully requested to withdraw this rejection.

6.   Dependent Claim 3

Claim 3 depends from claim 1 and further recites *"specifying, by said caller, a content of said personalized IVR dialogue menu"*. This feature is discussed in the present Application at page 10, lines 8-12.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6, lines 59-64 and Figure 4.

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However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 3. Therefore, the Board is respectfully requested to withdraw this rejection.

7.   Dependent Claim 4

Claim 4 depends from claim 1 and further recites *"providing a tracking of IVR accessing patterns of said caller such that one of said plurality of shortcut paths is provided to a desired location based on said caller's IVR accessing patterns"*. This feature is discussed in the present Application at page 9, lines 8-18.

The Examiner asserts that this feature is disclosed in Polcyn at col. 2, line 66 to col. 3, line 10.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 4. Therefore, the Board is respectfully requested to withdraw this rejection.

8.   Dependent Claim 6

Claim 6 depends from claim 4 and further recites *"wherein said one of said plurality of shortcut paths is based on a most-frequently accessed IVR pattern"*. This feature is discussed in the present Application at page 12, lines 1-5.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or

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suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 6. Therefore, the Board is respectfully requested to withdraw this rejection.

9.   Dependent Claim 7

Claim 7 depends from claim 3 and further recites *"wherein a specification of said personalized IVR menu is performed over a telephone"*. This feature is discussed in the present Application at page 12, lines 6-12; Figure 1, page 8, lines 3-7; and page 10, lines 8-10.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6, lines 59-64.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 7. Therefore, the Board is respectfully requested to withdraw this rejection.

10.   Dependent Claim 8

Claim 8 depends from claim 3 and further recites *"wherein a specification of said personalized IVR menu is performed over a network"*. This feature is discussed in the present Application at page 14, line 8; page 9, lines 8-18; and page 10, lines 8-10.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6, lines 59-64.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 8. Therefore, the Board is respectfully requested to withdraw this rejection.

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11. Dependent Claim 10

Claim 10 depends from claim 1 and further recites *"displaying to said caller said IVR menu to reduce a number of key sequences during interactions"*. This feature is discussed in the present Application at page 4, lines 22-23..

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 15-25.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 10. Therefore, the Board is respectfully requested to withdraw this rejection.

12. Dependent Claim 12

Claim 12 depends from claim 1 and further recites *"inserting a personalized sub-menu into said personalized IVR dialogue menu"*. This feature is discussed in the present Application at page 14, lines 21-23.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 12. Therefore, the Board is respectfully requested to withdraw this rejection.

13. Dependent Claim 15

Claim 15 depends from claim 1 and further recites *"wherein said retrieving is performed upon said system receiving a telephone call from said caller"*. This feature is discussed in the

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present Application at Figure 4; and page 12, lines 6-12.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 15. Therefore, the Board is respectfully requested to withdraw this rejection.

14.   Dependent Claim 17

Claim 17 depends from claim 16 and further recites "*wherein said retrieval unit retrieves said caller profile upon said system receiving a telephone call from said caller*". This feature is discussed in the present Application at page 7, lines 16-18.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 17. Therefore, the Board is respectfully requested to withdraw this rejection.

15.   Dependent Claim 18

Claim 18 depends from claim 16 and further recites "*wherein said retrieval unit is selectively interfaced with a network and a public switch telephone network (PSTN)*". This feature is discussed in the present Application at page 6, lines 11-16; and Figure 1.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 1.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or

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suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 18. Therefore, the Board is respectfully requested to withdraw this rejection.

16.   Dependent Claim 19

Claim 19 depends from claim 18 and further recites the following:

"wherein said retrieval unit includes:

a telephone interface module for selectively interfacing with said PSTN and for selectively receiving a predetermined tone and a voice input from said caller via the PSTN,

wherein said telephone interface module selectively transmits at least one of synthesized and stored voice messages to said caller via the PSTN,

wherein said personalized IVR dialogue menu is configurable by said caller through the PSTN via said telephone interface module". This feature is discussed in the present Application at page 8, lines 2-7.

The Examiner asserts that this feature is disclosed in Polcyn at col. 3 and Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 19. Therefore, the Board is respectfully requested to withdraw this rejection.

17   Dependent Claim 20

Claim 20 depends from claim 16 and further recites the following:

"wherein said retrieval unit further includes:

a dialogue handler, coupled to receive an input from said caller, for modeling state transitions of said system, to provide an output,

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wherein the output of said dialogue handler module determines a message to be returned to said caller, and an input of said dialogue handler module is derived from a caller input via at least one of a predetermined tone and a voice message from said caller". This feature is discussed in the present Application at page 8, lines 19-23.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 20. Therefore, the Board is respectfully requested to withdraw this rejection.

18. Dependent Claim 21

Claim 21 depends from claim 16 and further recites the following:

"wherein said retrieval unit further includes:

a dialogue logging and analysis module for recording a dialogue between the IVR system and said caller, and logging input sequences from said caller of the IVR system while said caller conducts said dialogue with said IVR system,

wherein said input sequences logged are for analyzing said caller's access patterns". This feature is discussed in the present Application at page 9, lines 8-12.

The Examiner asserts that this feature is disclosed in Polcyn at col. 2, lines 50-56.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 21. Therefore, the Board is respectfully requested to withdraw this rejection.

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19. Dependent Claim 22

Claim 22 depends from claim 21 and further recites *"wherein the analyzed access patterns are for providing a shortcut for personalized access to at least one of a most-frequently accessed information of said caller and a most-recently accessed dialogue path of said caller"*. This feature is discussed in the present Application at page 9, lines 13-18.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 22. Therefore, the Board is respectfully requested to withdraw this rejection.

20. Dependent Claim 23

Claim 23 depends from claim 22 and further recites *"wherein, based on said input sequences logged, said dialogue logging and analysis module provides at least one of personalized direct access automatically when said caller next calls the IVR system and a suggestion of such access pattern to said caller for creating said personalized menu"*. This feature is discussed in the present Application at page 9, lines 13-18.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 23. Therefore, the Board is respectfully requested to withdraw this rejection.

21 Dependent Claim 24

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Claim 24 depends from claim 16 and further recites the following:

"wherein said retrieval unit further includes:

a dialogue automatic playout module for allowing personalized access of information by said caller,

wherein if said caller decides to use a personalized shortcut path unique to said caller, control sequences representing said shortcut path are input to said dialogue automatic playout module". This feature is discussed in the present Application at page 9, lines 19-22.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6, lines 59-64.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 24. Therefore, the Board is respectfully requested to withdraw this rejection.

22.   Dependent Claim 25

Claim 25 depends from claim 16 and further recites the following:

"wherein said retrieval unit further includes:

a personalized menu processor module for constructing said shortcut for the personalized menus specified by said caller,

wherein specification is selectively performed over one of a telephone interaction and a world-wide network, and

wherein a personalized menu specified by said caller is represented by one of a list of direct dialogue paths to desired information and a hierarchical dialogue menu". This feature is discussed in the present Application at page 10, lines 8-12.

The Examiner asserts that this feature is disclosed in Polcyn at Figures 2 and 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere do the cited Figures teach or suggest

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this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 25. Therefore, the Board is respectfully requested to withdraw this rejection.

23.   Dependent Claim 29

Claim 29 depends from claim 1 and further recites *"wherein said personalized menu is constructed based on said caller's defined parameter other than a most recent selection made by said caller"*. This feature is discussed in the present Application at Figure 4; and page 11, line 17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Polcyn at feature 345 from Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 29. Therefore, the Board is respectfully requested to withdraw this rejection.

24.   Dependent Claim 30

Claim 30 depends from claim 1 and further recites *"wherein said personalized menu is constructed automatically by said system based on available user profile information not limited to said caller's most recently accessed menu selection"*. This feature is discussed in the present Application at Figure 4; and page 11, line 17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest

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each and every element of the claimed invention as recited in claim 30. Therefore, the Board is respectfully requested to withdraw this rejection.

25.   Dependent Claim 31

Claim 31 depends from claim 16 and further recites *"means for constructing said personalized menu based on said caller's defined parameter other than a most recent selection made by said caller"*. This feature is discussed in the present Application at Figure 4; page 11, line 17-page 12, line 12; page 13, lines 8-10.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44. However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 31. Therefore, the Board is respectfully requested to withdraw this rejection.

26.   Dependent Claim 32

Claim 32 depends from claim 16 and further recites *"wherein said personalized menu is constructed automatically by said system based on available caller profile information not limited to said caller's most recently accessed menu selection"*. This feature is discussed in the present Application at page 9, lines 8-18.

The Examiner asserts that this feature is disclosed in Polcyn at col. 4, lines 34-44. However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 32. Therefore, the Board is respectfully requested to withdraw this rejection.

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27.   Dependent Claim 36

Claim 36 depends from claim 1 and further recites *"wherein said plurality of shortcut paths comprises system-analyzed shortcuts which are based on a caller access pattern, and user-defined shortcuts which are specified by said caller"*. This feature is discussed in the present Application at page 11, line 17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 36. Therefore, the Board is respectfully requested to withdraw this rejection.

28.   Dependent Claim 37

Claim 37 depends from claim 36 and further recites *"wherein said personalized IVR dialogue menu further comprises an option for selecting a default main menu"*. This feature is discussed in the present Application at Figure 4; and page 11, lines 18-19.

The Examiner asserts that this feature is disclosed in Polcyn at col. 6, lines 55-65.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 37. Therefore, the Board is respectfully requested to withdraw this rejection.

29.   Dependent Claim 42

Claim 42 depends from claim 1 and further recites *"wherein said receiving said caller*

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profile comprises playing out said personalized IVR dialogue menu upon said system receiving a telephone call from said user". This feature is discussed in the present Application at page 12, line 22-page 13, line 18.

The Examiner asserts that this feature is disclosed in Polcyn at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that Polcyn clearly doe not teach or suggest each and every element of the claimed invention as recited in claim 42. Therefore, the Board is respectfully requested to withdraw this rejection.

B.   The Rejection of Claims 13-14 under 35 U.S.C. § 103(a) over Polcyn in view of Csaszar (U.S. Patent No. 5,970,124)

The Examiner alleges that Polcyn would have been combined with Csaszar to form the claimed invention of claims 13-14.

Specifically, the Examiner concedes that Polcyn does not teach or suggest the features of claims 13 and 14 but alleges that these features are taught by Csaszar and that Csaszar would have been combined with Polycyn to form the claimed invention.

1.   Dependent Claim 13

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Specifically, Appellant submits that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Csaszar <u>discloses a method of directed advertising. Specifically, the method uses a database having information which the consumer desires to know,</u> a database having attributes of

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the consumer, and a database of advertising messages that an IVR system can deliver to the consumer in response to calls placed to the IVR system (Csaszar at Abstract).

However, Csaszar is completely unrelated to an IVR system and is completely unrelated to Polcyn. Hence, given the completely different fields of the references, there would have been no motivation to combine the references, absent impermissible hindsight.

Moreover, neither Polcyn, nor Csaszar nor any combination thereof teaches or suggests a personalize menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 from which claim 13 depends.

Clearly, this novel feature is not taught or suggested by Csaszar. Indeed, Appellant notes that the Examiner is merely relying on Csaszar as allegedly disclosing inserting an advertisement into the caller's personalized dialogue menu (which Appellant denies). In other words, the Examiner has not alleged that Csaszar teaches or suggests constructing a personalized menu by performing a tree-based collapsing, or a personalized IVR dialogue menu which includes a plurality of shortcut paths, and an option for changing the plurality of shortcut paths.

In fact, nowhere does Csaszar teach or suggest a personalized menu which includes an option for changing the personalized menu. Indeed, the system and method of Csaszar are completely different from that of the claimed invention. In fact, as noted above, Csaszar merely discloses a system and method for directed advertising, and is completely unrelated to an IVR system. Therefore, Csaszar fails to make up for the deficiencies of the Polcyn reference.

Therefore, Appellant submits that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Further, claim 13 depends from claim 1 and further recites *"inserting an advertisement into said caller's personalized IVR dialogue menu, based on the caller's IVR past accessing patterns, during said caller's navigation of said personalized IVR dialogue menu"*. This feature

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is discussed in the present Application at page 17, lines 4-10.

The Examiner asserts that this feature is disclosed in Csaszar at cols. 8 and 9.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere do the cited columns teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Csaszar nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 13. Therefore, the Board is respectfully requested to withdraw this rejection.

2.   Dependent Claim 14

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 13 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 13.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Polcyn, nor Csaszar nor any combination thereof teaches or suggests a personalize menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 from which claim 14 depends.

Further, claim 14 depends from claim 13 and further recites *"wherein said inserting of said advertisement is based on contents of said menu that the caller has accessed"*. This feature is discussed in the present Application at page 17, lines 4-10.

The Examiner asserts that this feature is disclosed in Csaszar at cols. 8 and 9.

However, Appellant respectfully submits that the Examiner's position is flawed as a

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matter of fact and as a matter of law. Specifically, nowhere do the cited columns teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Csaszar nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 14. Therefore, the Board is respectfully requested to withdraw this rejection.

C.   The Rejection of Claims 5, 9 and 27 under 35 U.S.C. § 103(a) over Polcyn in view of Hanson (U.S. Patent No. 6,016,336)

The Examiner alleges that Polcyn does not teach or suggest the features of claims 5, 9 and 27. However, the Examiner alleges that Hanson teaches these features and that Hanson would have been combined with Polcyn to for the claimed invention.

1.   Dependent Claim 5

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Specifically, Appellant submits that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Specifically, neither Polcyn, nor Hanson, nor any combination thereof teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 (from which claims 5 and 9 indirectly depend) and similarly recited in claims 16 (from which claim 27 indirectly depends).

Clearly, these novel features are not taught or suggested by Hanson. Indeed, Appellant respectfully notes that the Examiner is not relying on Hanson as allegedly disclosing this feature, but is merely relying on Hanson as allegedly teaching a shortcut based on a most-recently

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accessed IVR pattern

Indeed, Hanson teaches that when the caller connects to the IVR system, he is merely presented with the option of receiving the full-length menu manuscript, or being connected in accordance with the caller's most recent previous choice (Hanson at col. 4, lines 1-54). Nowhere does Hanson teach that the caller is given an option at this point (e.g., when the call is initiated) to change his options. Thus, even assuming (arguendo) that being connected in accordance with the caller's most recent choice is somehow a part of a "menu", nowhere does that "menu" include the option of changing the "menu".

Thus, it is clear that Hanson <u>does not even teach or suggest a personalized main menu</u> as in the claimed invention, let alone a personalized main menu that includes a plurality of shortcut paths and an option for changing the plurality of shortcut paths. Further, nowhere does Hanson teach or suggest constructing a personalized menu <u>by performing a tree-based collapsing</u> as in the claimed invention.

Therefore, Appellant submits that these references would not have been combined and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

Further, claim 5 depends from claim 4 and further recites "wherein said one of said plurality of shortcut paths is based on a most-recently accessed IVR pattern". This feature is discussed in the present Application at page 12, lines 1-5.

The Examiner asserts that this feature is disclosed in Hanson at col. 4, lines 12-14.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere do the cited columns teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Hanson nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 5. Therefore, the Board is respectfully requested to withdraw this rejection.

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2. Dependent Claim 9

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 5 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 5.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Polcyn, nor Hanson, nor any combination thereof teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 (from which claims 5 and 9 indirectly depend) and similarly recited in claims 16 (from which claim 27 indirectly depends).

Further, claim 9 depends from claim 8 and further recites *"wherein said network comprises at least one of a World-Wide-Web (WWW), an intranet, and a personal area network (PAN)"*. This feature is discussed in the present Application at page 8, lines 8-18.

The Examiner asserts that this feature is disclosed in Hanson at col. 3, lines 1-4.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited passage teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Hanson nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as

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recited in claim 9. Therefore, the Board is respectfully requested to withdraw this rejection.

3.   Dependent Claim 27

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 5 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 5.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Polcyn, nor Hanson, nor any combination thereof teaches or suggests a personalized menu which includes "*retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone*", or a personalized menu which includes "*a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu*" as recited in claim 1 (from which claims 5 and 9 indirectly depend) and similarly recited in claims 16 (from which claim 27 indirectly depends).

Further, claim 27 depends from claim 18 and further recites "*wherein said network includes at least one of the Internet, an intranet, and a personal area network*". This feature is discussed in the present Application at page 7, lines 4-8.

The Examiner asserts that this feature is disclosed in Hanson at col. 3, lines 1-4.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere do the cited columns teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Hanson nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 27. Therefore, the Board is respectfully requested to withdraw this rejection.

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D.   **The Rejection of Claims 33-35 and 39-40 under 35 U.S.C. § 103(a) over**

       Polcyn in view of Partridge (U.S. Patent No. 5,933,484)

The Examiner alleges that Polcyn would have been combined with Partridge to form the claimed invention of claims 33-35 and 39-40, and that Polcyn would have been combined with Csaszar, Partridge and Hanson to form the claimed invention of claim 38.

1.   **Dependent claim 33**

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Appellant submits, however, that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Partridge discloses a method of providing a menu to a subscriber on a switched telecommunications network (Partridge at Abstract).

Clearly, Partridge is completely unrelated to Polcyn and Hanson. Moreover, Appellant respectfully submits that the Examiner has provided insufficient motivation for combining the references as alleged by the Examiner.

Hence, given the completely different problems addressed by the references, let alone those to which the present invention aims to solve, and given the fundamentally different solutions offered by the references to address these disparate problems, there would have been no motivation to combine the references, absent impermissible hindsight.

Moreover, neither Partridge, Polcyn, nor any combination thereof, teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 and similarly recited in claims 16, 26 and 28.

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Clearly, this novel feature is not taught or suggested by Partridge. Indeed, Appellant notes that the Examiner is merely relying on Partridge as allegedly disclosing an option for changing a personalized menu to include a selected shortcut.

In fact, nowhere does Partridge teach or suggest a personalized menu which includes an option for changing the personalized IVR dialogue menu. Certainly, Partridge does not teach or suggest constructing a personalized menu <u>by performing a tree-based collapsing</u>.

Indeed, the system and method of Partridge are completely different from that of the claimed invention. The Examiner attempts to rely on Figure 3 in Partridge to support his position. However, the Examiner is clearly incorrect.

Indeed, Partridge discloses that step 300 in Figure 3 may include a menu modification option (Partridge at col. 5, lines 50-62). However, this option merely allows adding or deleting in step 340 service options from the menu. That is, the menu is clearly not a personalized IVR menu and clearly does not include a plurality of shortcut paths, so the "menu modification option" certainly has nothing to do with <u>changing the plurality of shortcut paths (e.g., the content of the menu) in the menu</u>.

Therefore, Appellant submits that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

Therefore, Appellant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Further, claim 33 depends from claim 1 and further recites *"wherein said option for changing said plurality of shortcuts in said personalized IVR dialogue menu, comprises an option for changing said personalized menu to include a selected shortcut"*. This feature is discussed in the present Application at Figure 4, page 11, line 17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Partridge at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a

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matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or

suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor any

alleged combination thereof teaches or suggests each and every element of the claimed invention

as recited in claim 33. Therefore, the Board is respectfully requested to withdraw this rejection.

2.　　Dependent Claim 34

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact

and as a matter of law.

Appellant notes that the arguments made with respect to claim 33 are similarly applicable

here. Thus, Appellant incorporates herein by reference the arguments made above with respect to

claim 33.

Specifically, these references would not have been combined as alleged by the Examiner

and even if combined, the combination would not teach or suggest each and every element of the

claimed invention. In particular, neither Partridge, Polcyn, nor any combination thereof, teaches

or suggests a personalized menu which includes *"retrieving the caller profile to construct a*

personalized IVR dialogue menu by performing a tree-based collapsing, and play out the

personalized IVR dialogue menu via said telephone", or a personalized menu which includes *"a*

plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said

personalized IVR dialogue menu" as recited in claim 1 and similarly recited in claims 16, 26 and

28.

Further, claim 34 depends from claim 1 and further recites *"wherein said option for*

changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an

option for selecting a sequence of direct dialogue paths to be included in said personalized IVR

dialogue menu". This feature is discussed in the present Application at Figure 4, page 11, line

17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Partridge at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a

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matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 34. Therefore, the Board is respectfully requested to withdraw this rejection.

3. Dependent Claim 35

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 33 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 33.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Partridge, Polcyn, nor any combination thereof, teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 and similarly recited in claims 16, 26 and 28.

Further, claim 35 depends from claim 1 and further recites *"wherein said option for changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an option for changing said personalized IVR dialogue menu before navigating said personalized IVR dialogue menu during a current call"*. This feature is discussed in the present Application at Figure 4, page 11, line 17-page 12, line 12.

The Examiner asserts that this feature is disclosed in Partridge at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a

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matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 33. Therefore, the Board is respectfully requested to withdraw this rejection.

4.   Dependent Claim 39

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 33 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 33.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Partridge, Polcyn, nor any combination thereof, teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 and similarly recited in claims 16, 26 and 28.

Further, claim 39 depends from claim 3 and further recites *"wherein said specifying said content of said personalized IVR dialogue menu comprises at least one of adding a shortcut path to and deleting a shortcut path from said personalized IVR dialogue menu"*. This feature is discussed in the present Application at page 11, line 17-page 12, line 18.

The Examiner asserts that this feature is disclosed in Partridge at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or

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suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 39. Therefore, the Board is respectfully requested to withdraw this rejection.

5. Dependent Claim 40

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

Appellant notes that the arguments made with respect to claim 33 are similarly applicable here. Thus, Appellant incorporates herein by reference the arguments made above with respect to claim 33.

Specifically, these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention. In particular, neither Partridge, Polcyn, nor any combination thereof, teaches or suggests a personalized menu which includes "*retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone*", or a personalized menu which includes "*a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu*" as recited in claim 1 and similarly recited in claims 16, 26 and 28.

Further, claim 40 depends from claim 1 and further recites "*wherein said option for changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an option for at least one of adding a shortcut path to and deleting a shortcut path from said personalized IVR dialogue menu*". This feature is discussed in the present Application at Figure 4, page 11, line 17-page 12, line 18.

The Examiner asserts that this feature is disclosed in Partridge at Figure 3.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or

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suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 40. Therefore, the Board is respectfully requested to withdraw this rejection.

E.   The Rejection of Claim 38 under 35 U.S.C. § 103(a) over Polcyn in view of Csaszar, Partridge and Hanson

The Examiner concedes that neither Polcyn, nor Csaszar, nor Partridge teach or suggests the feature of claim 38. However, the Examiner alleges that Hanson teaches this feature and that Hanson would have been combined with these references to form the claimed invention.

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Appellant submits, however, that these references would not have been combined as alleged by the Examiner and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Partridge discloses a method of providing a menu to a subscriber on a switched telecommunications network (Partridge at Abstract).

Clearly, Partridge is completely unrelated to Polcyn and Hanson. Moreover, Appellant respectfully submits that the Examiner has provided insufficient motivation for combining the references as alleged by the Examiner.

Hence, given the completely different problems addressed by the references, let alone those to which the present invention aims to solve, and given the fundamentally different solutions offered by the references to address these disparate problems, there would have been no motivation to combine the references, absent impermissible hindsight.

Moreover, neither Partridge, Polcyn, nor Hanson, nor any combination thereof, teaches or suggests a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said*

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personalized IVR dialogue menu" as recited in claim 1 and similarly recited in claims 16, 26 and 28.

Clearly, this novel feature is not taught or suggested by Hanson. Therefore, Appellant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Further, claim 38 depends from claim 1 and further recites

"inserting an advertisement into said caller's personalized IVR dialogue menu, based on the caller's IVR past accessing patterns, during said caller's navigation of said personalized IVR dialogue menu,

wherein said option for changing said plurality of shortcuts in said personalized IVR dialogue menu comprises an option for changing said personalized IVR dialogue menu to include a selected shortcut, and

wherein a specification of said personalized IVR dialogue menu is performed over a network comprising at least one of a World-Wide-Web (WWW), an intranet, and a personal area network (PAN)"

This feature is discussed in the present Application at page 17, lines 4-10.

The Examiner asserts that this feature is disclosed in Hanson at col. 3, lines 1-4.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does the cited Figure teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor Hanson, nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 38. Therefore, the Board is respectfully requested to withdraw this rejection.

F.   **The Rejection of Claim 41 under 35 U.S.C. § 103(a) over Polcyn**

Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law.

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Specifically, Polcyn does not teach or suggest a personalized menu which includes *"retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone"*, or a personalized menu which includes *"a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu"* as recited in claim 1 and similarly recited in claims 16, 26 and 28.

Further, claim 41 depends from claim 1 and further *recites "wherein upon electing said option for changing said plurality of shortcut paths, said system provides a dialogue for allowing said caller to use said telephone to input user-defined shortcuts via key sequences based on key-to-shortcut mapping"*. This feature is discussed in the present Application at page 17, lines 4-10.

The Examiner asserts that this feature is disclosed in Polcyn.

However, Appellant respectfully submits that the Examiner's position is flawed as a matter of fact and as a matter of law. Specifically, nowhere does Polcyn teach or suggest this feature.

Therefore, Appellant respectfully submits that neither Polcyn, nor Partridge nor Hanson, nor any alleged combination thereof teaches or suggests each and every element of the claimed invention as recited in claim 41. Therefore, the Board is respectfully requested to withdraw this rejection.

Therefore, the dependent claims define elements and limitations which further place the claimed invention squarely in the realm of statutory subject matter and which provide a useful, tangible and concrete result.

Therefore, dependent claims like independent claims 1, 16, 26 and 28, include at least one element which is not taught or suggested by the cited references, or any combination of the cited references.

In view of all of the foregoing, Appellant respectfully submits that the Examiner's rejections are erroneous as a matter of fact and law

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VIII.   CONCLUSION

In view of the foregoing, Appellant submits that claims 1-10 and 12-42, all the claims presently pending in the application, are patentably distinct from the prior art of record and in condition for allowance. Thus, the Board is respectfully requested to remove the rejections of claims 1-10 and 12-42.

Please charge any deficiencies and/or credit any overpayments necessary to enter this paper to Assignee's Deposit Account number 50-0510.

Respectfully submitted,

Dated: _5/18/05_

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CLAIMS APPENDIX

1.   A method for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, comprising:

storing a caller profile;

accessing said IVR system via a telephone; and

retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and

an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller.

2.   The method of claim 1, further comprising:

tracking an access pattern of said caller.

3.   The method of claim 1, further comprising:

specifying, by said caller, a content of said personalized IVR dialogue menu.

4.   The method of claim 1, further comprising:

providing a tracking of IVR accessing patterns of said caller such that one of said plurality of shortcut paths is provided to a desired location based on said caller's IVR accessing patterns.

5.   The method of claim 4, wherein said one of said plurality of shortcut paths is based on a most-recently accessed IVR pattern.

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6.   The method of claim 4, wherein said one of said plurality of shortcut paths is based on a most-frequently accessed IVR pattern.

7.   The method of claim 3, wherein a specification of said personalized IVR menu is performed over a telephone.

8.   The method of claim 3, wherein a specification of said personalized IVR menu is performed over a network.

9.   The method according to claim 8, wherein said network comprises at least one of a World-Wide-Web (WWW), an intranet, and a personal area network (PAN).

10.   The method of claim1, further comprising:
        displaying to said caller said IVR menu to reduce a number of key sequences during interactions.

11.   (Canceled)

12.   The method of claim 1, further comprising:
        inserting a personalized sub-menu into said personalized IVR dialogue menu.

13.   The method according to claim 1, further comprising:
        inserting an advertisement into said caller's personalized IVR dialogue menu, based on the caller's IVR past accessing patterns, during said caller's navigation of said personalized IVR dialogue menu.

14.   The method according to claim 13, wherein said inserting of said advertisement is based on contents of said menu that the caller has accessed.

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15.   The method according to claim 1, wherein said retrieving is performed upon said system receiving a telephone call from said caller.

16.   A system for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, comprising:

    a storage device for storing a caller profile;

    a telephone for accessing said IVR system; and

    a retrieval unit for retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play-out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and

        an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

    wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller.

17.   The system according to claim 16, wherein said retrieval unit retrieves said caller profile upon said system receiving a telephone call from said caller.

18.   The system according to claim 16, wherein said retrieval unit is selectively interfaced with a network and a public switch telephone network (PSTN).

19.   The system according to claim 18, wherein said retrieval unit includes:

    a telephone interface module for selectively interfacing with said PSTN and for selectively receiving a predetermined tone and a voice input from said caller via the PSTN,

    wherein said telephone interface module selectively transmits at least one of synthesized and stored voice messages to said caller via the PSTN,

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wherein said personalized IVR dialogue menu is configurable by said caller through the PSTN via said telephone interface module.

20. The system according to claim 16, wherein said retrieval unit further includes:

a dialogue handler, coupled to receive an input from said caller, for modeling state transitions of said system, to provide an output,

wherein the output of said dialogue handler module determines a message to be returned to said caller, and an input of said dialogue handler module is derived from a caller input via at least one of a predetermined tone and a voice message from said caller.

21. The system according to claim 16, wherein said retrieval unit further includes:

a dialogue logging and analysis module for recording a dialogue between the IVR system and said caller, and logging input sequences from said caller of the IVR system while said caller conducts said dialogue with said IVR system,

wherein said input sequences logged are for analyzing said caller's access patterns.

22. The system according to claim 21, wherein the analyzed access patterns are for providing a shortcut for personalized access to at least one of a most-frequently accessed information of said caller and a most-recently accessed dialogue path of said caller.

23. The system according to claim 22, wherein, based on said input sequences logged, said dialogue logging and analysis module provides at least one of personalized direct access automatically when said caller next calls the IVR system and a suggestion of such access pattern to said caller for creating said personalized menu.

24. The system according to claim 16, wherein said retrieval unit further includes:

a dialogue automatic playout module for allowing personalized access of information by said caller,

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wherein if said caller decides to use a personalized shortcut path unique to said caller, control sequences representing said shortcut path are input to said dialogue automatic playout module.

25.   The system according to claim 16, wherein said retrieval unit further includes:

a personalized menu processor module for constructing said shortcut for the personalized menus specified by said caller,

wherein specification is selectively performed over one of a telephone interaction and a world-wide network, and

wherein a personalized menu specified by said caller is represented by one of a list of direct dialogue paths to desired information and a hierarchical dialogue menu.

26.   A system for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, comprising:

a storage for storing a caller profile; and

a retrieval unit for retrieving the caller's profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing and play-out the personalized menu, said retrieval unit being selectively interfaced with a network and a public switch telephone network (PSTN), and said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and

an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said retrieval unit includes:

a telephone interface module for selectively interfacing with said PSTN and for selectively receiving a predetermined tone and a voice input from said caller via the PSTN, said telephone interface module selectively transmitting at least one of synthesized and stored voice messages to said caller via the PSTN,

wherein said personalized IVR dialogue menu is configurable by said caller through the

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PSTN via said telephone interface module,

wherein said retrieval unit further includes:

a network interface module for communicating with external systems via the network to retrieve information for the IVR system to playback via said telephone interface module,

wherein said network interface module presents a configurable menu to the caller via the network for the caller to specify the caller's personalized dialogue menu, and

wherein the network interface module parses text messages into a predetermined format such that the parsed text messages are used to interact with the caller through said telephone interface module.

27.   The system according to claim 18, wherein said network includes at least one of the Internet, an intranet, and a personal area network.

28.   A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for personalizing an interactive voice response (IVR) system to reduce a number of key sequences to reach a desired source of information, said method comprising:

storing a caller profile;

accessing said IVR system via a telephone; and

retrieving the caller profile to construct a personalized IVR dialogue menu by performing a tree-based collapsing, and play out the personalized IVR dialogue menu via said telephone, said personalized IVR dialogue menu comprising:

a plurality of shortcut paths; and an option for changing said plurality of shortcut paths in said personalized IVR dialogue menu,

wherein said personalized IVR dialogue menu is at least one of based on a caller access pattern and configurable by said caller.

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29.   The method of claim 1, wherein said personalized menu is constructed based on said caller's defined parameter other than a most recent selection made by said caller.

30.   The method of claim 1, wherein said personalized menu is constructed automatically by said system based on available user profile information not limited to said caller's most recently accessed menu selection.

31.   The system of claim 16, further comprising:
        means for constructing said personalized menu based on said caller's defined parameter other than a most recent selection made by said caller.

32.   The system of claim 16, wherein said personalized menu is constructed automatically by said system based on available caller profile information not limited to said caller's most recently accessed menu selection.

33.   The method of claim 1, wherein said option for changing said plurality of shortcuts in said personalized IVR dialogue menu, comprises an option for changing said personalized menu to include a selected shortcut.

34.   The method of claim 1, wherein said option for changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an option for selecting a sequence of direct dialogue paths to be included in said personalized IVR dialogue menu.

35.   The method of claim 1, wherein said option for changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an option for changing said personalized IVR dialogue menu before navigating said personalized IVR dialogue menu during a current call.

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36.   The method of claim 1, wherein said plurality of shortcut paths comprises system-analyzed shortcuts which are based on a caller access pattern, and user-defined shortcuts which are specified by said caller.

37.   The method of claim 36, wherein said personalized IVR dialogue menu further comprises an option for selecting a default main menu.

38.   The method of claim 1, further comprising:

inserting an advertisement into said caller's personalized IVR dialogue menu, based on the caller's IVR past accessing patterns, during said caller's navigation of said personalized IVR dialogue menu,

wherein said option for changing said plurality of shortcuts in said personalized IVR dialogue menu comprises an option for changing said personalized IVR dialogue menu to include a selected shortcut, and

wherein a specification of said personalized IVR dialogue menu is performed over a network comprising at least one of a World-Wide-Web (WWW), an intranet, and a personal area network (PAN).

39.   The method of claim 3, wherein said specifying said content of said personalized IVR dialogue menu comprises at least one of adding a shortcut path to and deleting a shortcut path from said personalized IVR dialogue menu.

40.   The method of claim 1, wherein said option for changing said plurality of shortcut paths in said personalized IVR dialogue menu comprises an option for at least one of adding a shortcut path to and deleting a shortcut path from said personalized IVR dialogue menu.

41.   The method of claim 1, wherein upon electing said option for changing said plurality of shortcut paths, said system provides a dialogue for allowing said caller to use said telephone to

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input user-defined shortcuts via key sequences based on key-to-shortcut mapping.

42.   The method of claim 1, wherein said receiving said caller profile comprises playing out
said personalized IVR dialogue menu upon said system receiving a telephone call from said user.